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ABSTRACT

Farm and farm-related industries account for almost 18 percent of total U.S. employment in 1988. This share is based on a broad definition of the agricultural sector, including not only farm production but also industries that mine, manufacture, and sell farm inputs; process commodities; and sell consumer goods. Many jobs in industries that support processing and distribution of farm goods are located far from the farm. Almost 71 percent of all farm and farm-related jobs are in metropolitan counties. Many of these jobs are in agricultural wholesale and retail trade industries that serve consumer markets in these counties. Only 722,000 farm and farm-related jobs are in the Northern Plains, the fewest of all regions, but the jobs in that thinly populated region account for 23.8 percent of its total employment. The 4.7 million farm and farm-related jobs in the Northeast, a populous part of the country, exceed those in other regions, but account for only 15.4 percent of the Northeast's total employment. In all regions, agriculture is relatively more important to non-metropolitan counties, where the proportion of total employment in farm and farm-related industries is 6.2 to 15.3 percent greater than in metropolitan counties. (Four figures and three tables are provided. An appended table provides a classification of farm and farm-related industries.) (YLB)

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U.S. Farm and Farm-Related Employment in 1988

How Large, Important, and Regionally Different?

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David E. Hopkins

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In this report ... *Farm and farm-related industries accounted for almost 18 percent of total U.S. employment in 1988. This share is based on a broad definition of the agricultural sector, including not only farm production but also industries that mine, manufacture, and sell farm inputs; process commodities; and sell consumer goods. Employment in these industries is used to measure the size and importance of the agricultural sector in U.S. regions and metropolitan (metro) and nonmetropolitan (nonmetro) areas. Defining and measuring the agricultural sector helps inform decisionmakers who must weigh the demands of agriculture against competing economic activities when making policy, developing programs, and allocating budget dollars.*

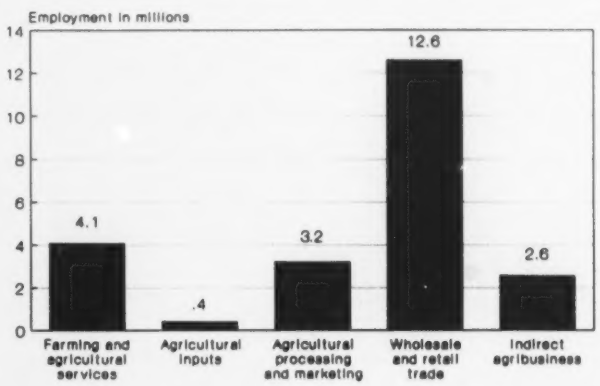
Farming and its associated industries provided Americans with nearly 23 million jobs in 1988, the latest year for which statistics are available. Wholesale and retail trade of agricultural products accounted for the largest share of farm and farm-related employment, 12.6 million jobs (fig. 1). Farming and agricultural services contributed another 4.1 million jobs. The remaining employment came from the agricultural processing and marketing industries, agricultural input industries, and indirect agribusinesses (see appendix for definitions and a list of industries in each group).

Estimates of farm and farm-related employment in this report differ from those previously released by USDA's Economic Research Service, because they use the 1987 revised Standard Industrial Classification (SIC). Revision resulted in mergers of some industries and creation of others.

Estimates also differ from earlier ones because nonfarm proprietors (self-employed persons in nonfarm enterprises) were included in the 1988 figures to better gauge both total U.S. employment and total farm and farm-related employment. (Past employment estimates were based on data that counted wage and salary jobs but excluded the self-employed in all industries but farming.) The 1988 estimate of total U.S. employment included approximately 17.1 million nonfarm proprietors, 1.9 million of whom worked in farm-related industries. The terms *jobs* and *employment* are used interchangeably throughout this report.

Figure 1
Farm and farm-related employment, 1988

Most employment is located away from the farm



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U.S. Agriculture: More than Farming

Farming is only a part of the U.S. agricultural system. Other industries support processing and distribution of farm goods, but many of their jobs are located far from the farm.

Farm and farm-related industries accounted for about 23 million U.S. jobs in 1988. Of that, farming and agricultural services provided 4.1 million jobs to the U.S. economy, or 3.2 percent of all employment in the United States. The nearly 2.3 million U.S. farm proprietors accounted for most of the sector's employment. Another 1 million jobs were farm wage and salary positions. Only 793,000 jobs were in agricultural service industries, which are enterprises that provide soil preparation, crop, veterinary, farm management, landscape, and horticultural services as well as forestry firms and fisheries.

Bottom ranked in terms of jobs contributed but having the most direct economic links to farming are the agricultural input industries. They accounted for 419,142 jobs, or less than 0.5 percent of total U.S. employment. Almost 66 percent of this sector's employment was in the wholesale trade of farm machinery, equipment, and supplies. Other kinds of enterprises in this group are fertilizer and chemical mining.

Providing 3.2 million U.S. jobs in 1988, or 2.5 percent of all U.S. employment, are agricultural processing and marketing industries. These industries handle agricultural goods after the goods leave the farm. Close to 50 percent of the processing and marketing employment was in apparel and textile manufacturing, industries concentrated in Appalachia, the Northeast, the Southeast, and the Pacific regions. Eighty-five percent of all apparel and textile employment was located in these four regions. (See figure 2 for farm production regions.)

The wholesale and retail trade of agricultural products contributed the largest share to farm and farm-related employment, 12.6 million jobs amounting to 9.8 percent of total U.S. employment, but this industry group is only peripherally related to farming. For instance, it includes establishments that sell groceries, alcoholic beverages, tobacco, and clothing, as well as eating and drinking places that serve prepared items.

Indirect agribusinesses, which contributed 2.6 million jobs (or 2 percent of total U.S. employment in 1988), are composed of a wide variety of industries that have relatively minor links to agriculture. They include, for example, industries that produce containers and paper products and repair farm machinery.

Figure 2

U.S. farm production regions

How the Farm and Farm-Related Jobs Stack Up

- Wholesale and retail sales of agricultural products accounted for the largest share, 12.6 million jobs.
- Farming and agricultural services, with their farm proprietors, farm wage and salaried workers, and agricultural service specialists like veterinarians and agronomists, amounted to 4.1 million jobs.
- Agricultural processing and marketing industries that handle goods beyond the farmgate accounted for 3.2 million jobs. Nearly one-half of these jobs were in apparel and textile manufacturing.
- Indirect agribusiness jobs like servicing tractors and other farm machines accounted for 2.6 million jobs.
- Agricultural input industries, such as fertilizer mining, contributed 0.4 million jobs.

Farm and Farm-Related Employment Is Concentrated in Metro Areas

Almost 71 percent of all farm and farm-related jobs are in metro counties. Many of these jobs are in agricultural wholesale and retail trade industries that serve consumer markets in these counties.

Metro counties had almost two-and-a-half times more farm and farm-related employment than nonmetro counties in 1988, but the share of these kinds of jobs compared with all jobs was smaller in metro than in nonmetro counties. For example, farm and farm-related jobs accounted for 15.6 percent of all metro employment but 26.9 percent of all nonmetro employment (fig. 3).

Farming and agricultural services contributed most to the relative strength of farm and farm-related industries in nonmetro counties. The sector accounted for 9.6 percent of total nonmetro employment, while its share of total metro employment was 1.6 percent.

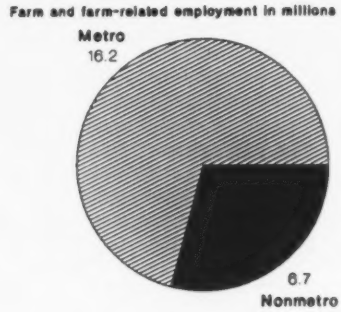
Nearly all groups of farm-related industries had more employment in metro areas than in nonmetro areas (table 1). The largest disparity between the number of metro and nonmetro jobs in an industry was in wholesale and retail trade of agricultural products. Because trade industries depend on consumer markets, about 81 percent of agricultural wholesale and retail trade employment was located in the Nation's thickly settled metro counties. Metro counties contain the bulk of agricultural wholesale and retail trade employment, but these industries account for equal shares of total employment (around 9.8 percent) in both metro and nonmetro areas.

A large portion (slightly under 81 percent) of indirect agribusiness employment also was located in metro counties. As a share of total employment, however, indirect agribusinesses accounted for 2 percent of the jobs in both metro and nonmetro counties.

Figure 3

Where the jobs are, 1988

More farm and farm-related employment is located in metro counties...



but it accounts for a larger share of total nonmetro employment.

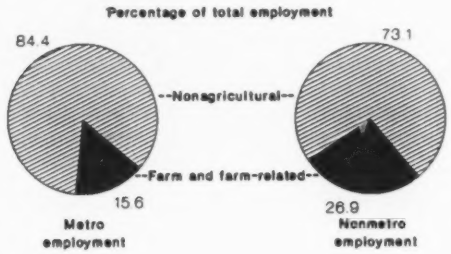


Table 1--Employment in metro and nonmetro countries, 1988

Farm-related industries have more employment in metro areas.

Industry	Total[1]	Metro	Nonmetro
		Million jobs	
Farm and farm-related industries	22.9	16.2	6.7
Farming and agricultural services	4.1	1.7	2.4
Agricultural inputs	.4	.2	.2
Agricultural processing and marketing	3.2	2.0	1.2
Wholesale and retail trade	12.6	10.2	2.4
Indirect agribusiness	2.6	2.1	.5

[1]Metro and nonmetro jobs may not add to total because of rounding.

Regions Vary in Farm and Farm-Related Employment's Importance to Their Economies

Only 722,000 farm and farm-related jobs are in the Northern Plains, the fewest of all regions, but the jobs in that thinly populated region account for a big share of its total employment. The 4.7 million farm and farm-related jobs in the Northeast, a populous part of the country, exceed those in other regions, but account for a small share of the Northeast's total employment.

Farm and farm-related industries accounted for a high of 23.8 percent of all employment in the Northern Plains, a region with few people, and a low of 15.4 percent in the Northeast, a region with many people (fig. 4) (see also map, page 3).

Although farm and farm-related jobs accounted for the largest share of total employment in the Northern Plains, that region had the lowest number of such jobs, only 722,000 (table 2). Farm and farm-related jobs were extremely important to the economies of nonmetro counties in that region: twice as many of these jobs were in nonmetro areas as in metro areas. The Delta States was the only other region in which farm and farm-related employment was greater in nonmetro than in metro counties. The eight other regions had more farm and farm-related employment in metro than in nonmetro areas, because many farm-related jobs are not directly related to agricultural production and are located away from the farm.

In all regions, agriculture was relatively more important to nonmetro counties, where the proportion of total employment in farm and farm-related industries was 6.2 to 15.3 percent greater than in metro counties. Farming and agricultural services' share of total employment was greatest in nonmetro counties of the Northern and Southern Plains States (table 3). That industry group, consisting of agricultural production and related services, accounted for over 15.5 percent of all nonmetro employment in the Northern Plains and 13.4 percent in the Southern Plains. The share of agricultural input industries (which are closely linked to farm production) was greatest in nonmetro counties of the Northern Plains, accounting for 1.8 percent of all nonmetro employment in this region.

Employment in agricultural processing and marketing industries was relatively more important in Appalachia than in any other region (fig. 4). These industries accounted for over 5.3 percent of that region's employment, with most of the jobs in apparel and textile manufacturing.

Wholesale and retail trade industries' share of employment varied slightly among regions. These industries accounted for a high of 10.6 percent of all employment in the Southeast and a low of 9.3 percent in Appalachia (fig. 4).

Table 2--Regional farm and farm-related employment by metro and nonmetro counties, 1988

Most regions have more farm and farm-related jobs in metro areas.

Region	Total[1]	Metro	Nonmetro
		Thousand jobs	
Appalachia	2,548	1,382	1,162
Corn Belt	3,434	2,275	1,154
Delta States	844	365	477
Lake States	1,805	1,168	637
Mountain	1,128	660	468
Northeast	4,713	4,091	615
Northern Plains	722	241	481
Pacific	3,205	2,841	363
Southeast	2,567	1,793	770
Southern Plains	1,678	1,191	485

[1]Metro and nonmetro jobs may not add to total due to some employment that was not classified by location.

Figure 4

Regional employment differences, 1988

Farm and farm-related industries are most important to the Northern Plains economy.

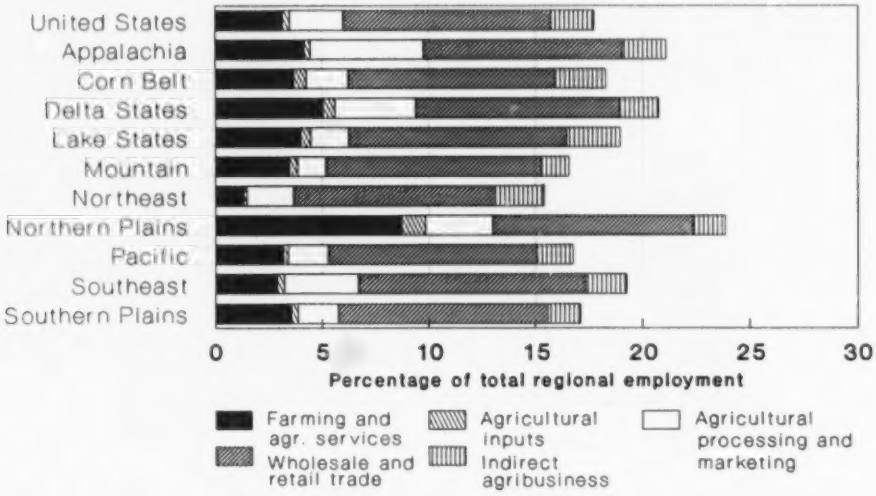


Table 3--Share of total nonmetro employment by farm and farm-related industry and region, 1988

Farming and agricultural services account for the largest share of nonmetro employment in the Plains States.

Region	Total farm and farm-related industries[1]	Farming and agricultural services	Agricultural inputs	Agricultural processing and marketing	Wholesale and retail trade	Indirect agribusiness
			Percentage of nonmetro employment			
Appalachia	28.6	8.6	.5	8.4	9.0	2.1
Corn Belt	27.2	11.1	1.2	3.4	9.1	2.3
Delta States	27.1	9.3	.9	6.4	8.4	2.1
Lake States	29.0	11.5	1.1	3.2	10.6	2.5
Mountain	22.7	8.1	.9	1.8	10.8	1.1
Northeast	21.0	4.6	.3	3.2	10.4	2.5
Northern Plains	31.4	15.5	1.8	4.2	8.8	1.2
Pacific	26.7	11.1	.7	2.2	11.1	1.7
Southeast	28.6	7.0	.7	9.0	9.8	2.2
Southern Plains	27.9	13.4	.9	3.3	8.9	1.4

[1]Industry percentages may not add to total because of rounding.

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Appendix

Data Sources and Definitions

Estimates in this report are based on the most recent county-level data from the Bureau of the Census, U.S. Department of Commerce, released in an enhanced County Business Patterns file for 1988. The County Business Patterns data provide estimates of wage and salary jobs for most industries in the United States. Information about farm proprietors and wage and salary jobs in agricultural production, as well as nonfarm proprietors and government employment, is not included in the County Business Patterns data. Employment data for these missing groups were obtained from the Bureau of Economic Analysis, U.S. Department of Commerce. Employment data on nonfarm proprietors, available only for major industrial divisions (1-digit Standard Industrial Classification (SIC) level), were distributed among farm-related industries (2-, 3-, and 4-digit SIC levels) based on the proprietor's share of total employment in the division in which the farm-related industry is classified. The percentage of proprietor employment in every industrial division was determined for each county. These percentages were applied to wage and salary employment in farm-related industries in the county.

Farm and farm-related industries are identified as industries having 50 percent or more of their national work force employed in providing goods and services necessary to satisfy the domestic final demand for agricultural products. These industries are classified by location in metro and nonmetro counties as defined by the Office of Management and Budget's Metropolitan Statistical Area designation in 1984. Industries are aggregated into related groups, classified as: farming and agricultural services, agricultural input industries, agricultural processing and marketing industries, wholesale and retail trade of agricultural products, and indirect agribusiness (app. table 1).

Appendix table 1--Classification of farm and farm-related industries

Industry groups and components	1987 Standard Industrial Classification (SIC) [1]
Farming and agricultural services:	
Farm production (farm proprietors, and wage and salary farmworkers)	†
Agricultural services, forestry, fisheries	07-09
Agricultural input industries:	
Chemical and fertilizer mining	147
Agricultural chemicals	287
Farm machinery and equipment	3523
Farm supply and machinery (wholesale trade)	5083, 5191
Commodity contract brokers and dealers	622
Agricultural processing and marketing:	
Meat products	201
Dairy products	202
Canned, frozen, and preserved fruits and vegetables	203
Grain mill products	204
Bakery products	205
Sugar and confectionery products	206
Fats and oils products	207
Beverages	208
Miscellaneous food preparations and kindred products	209
Tobacco products	21
Apparel and textiles	221, 223-5, 2261, 2269, 228, 2298-9, 231-8, 2397
Leather products	31
Farm-related raw materials (wholesale trade)	515
Warehousing	4221, 4222
Wholesale and retail trade of agricultural products:	
Wholesale trade	513-4, 518, 5194
Retail trade	54, 56, 58
Indirect agribusiness:	
Prefabricated metal buildings	3448
Pumps and pumping equipment	3561
Miscellaneous repair shops	7692, 7699
Miscellaneous textile products	2295, 2393, 2395
Containers, paper products, and pulpwood products	2441, 2449, 262-3, 2652-3, 2655-7, 2671-6, 3221, 3262, 3274
Chemicals	2823-4, 2893
Primary and fabricated metal products	3315-7, 334, 3411, 3466, 3497
Food products machinery	3556
Miscellaneous manufacturing	3965, 3993
Printing and publishing	271-2, 274, 2752, 2754, 2759, 2791, 2796

[1]The Standard Industrial Classification (SIC) was revised in 1987. The revision resulted in mergers of some industries and creation of others through subdividing or restructuring existing industries.

† Note: Data were obtained from the Bureau of Economic Analysis, U.S. Department of Commerce, because County Business Patterns data do not include information about the employment of farmers or wage and salary jobs in agricultural production (SIC 01-02).

Recommended Reading

T. Alexander Majchrowicz. *Employment Trends in Farm and Farm-Related Industries, 1975-87.* Staff Report No. AGES 9121. U.S. Dept. Agr., Econ. Res. Serv. Apr. 1991.

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